

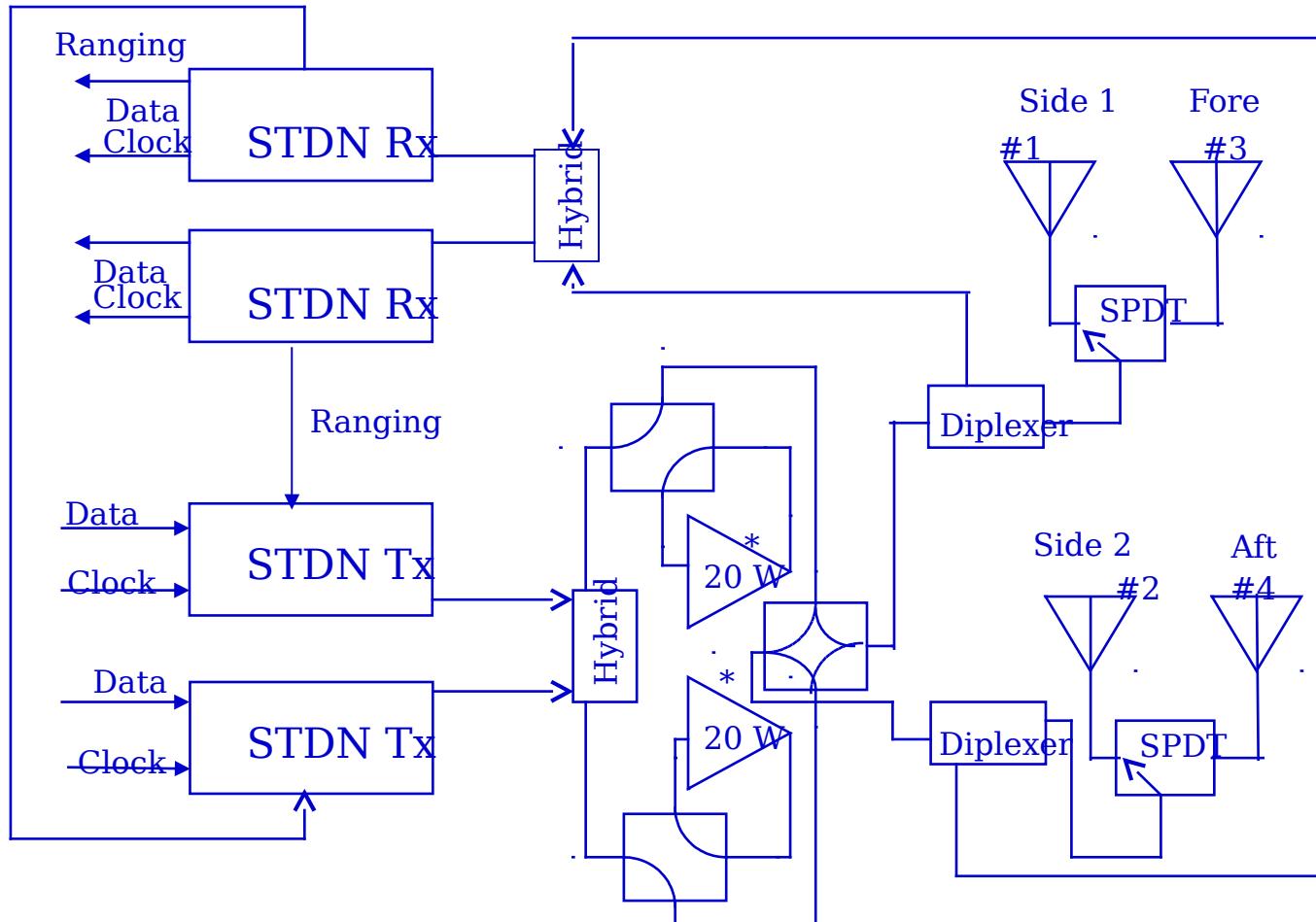


Radio Frequency Subsystem (RFS)

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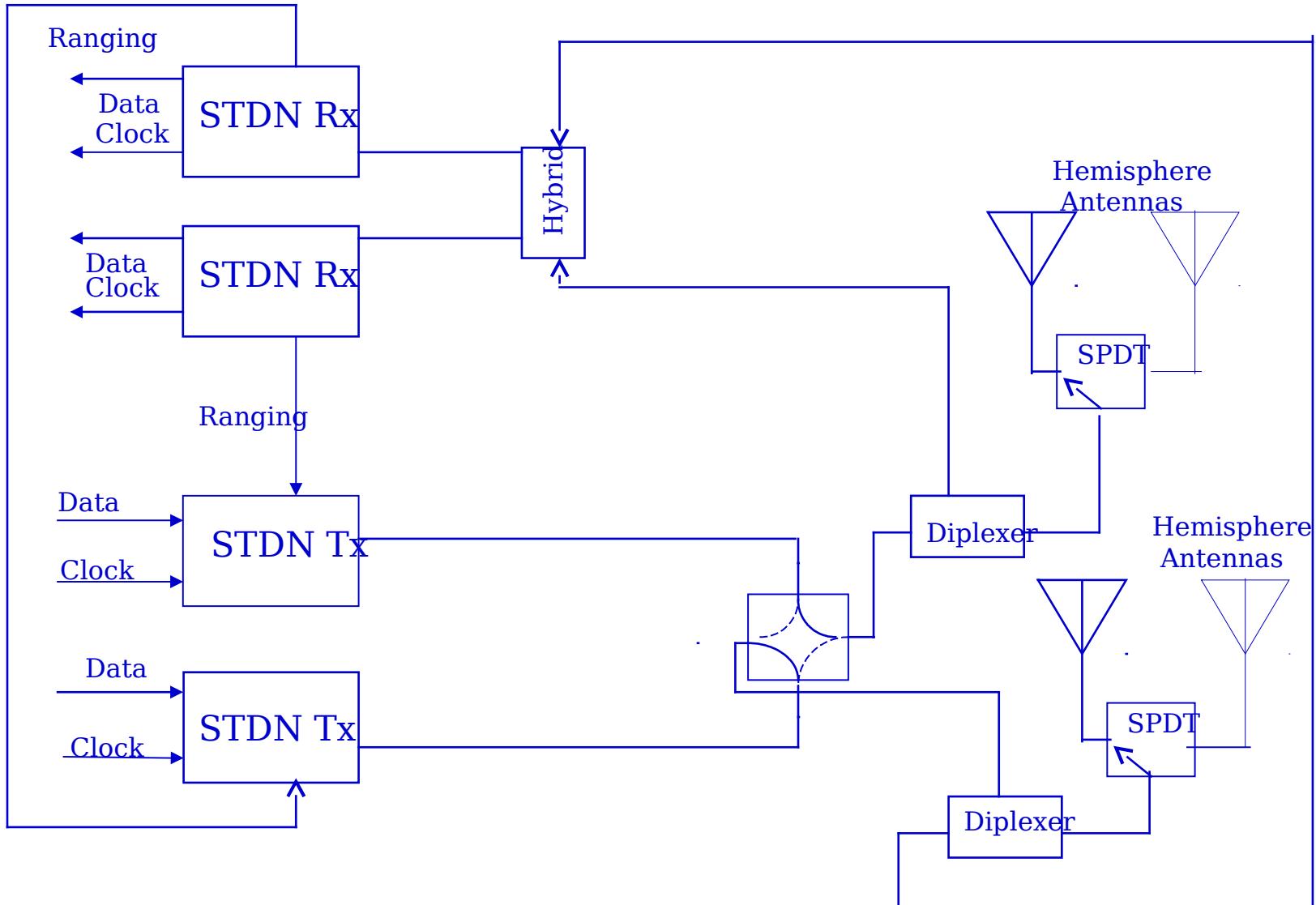
20W (Original) RF Subsystem



- Power amps operated separately during normal operation. Safety interlock and internal limiting prevent accidental overstress of the amplifier in the event that the output is connected to the input with DC power applied.



6 W RF Subsystem





Trade Study

Configuration

Total DC Power

Total Mass

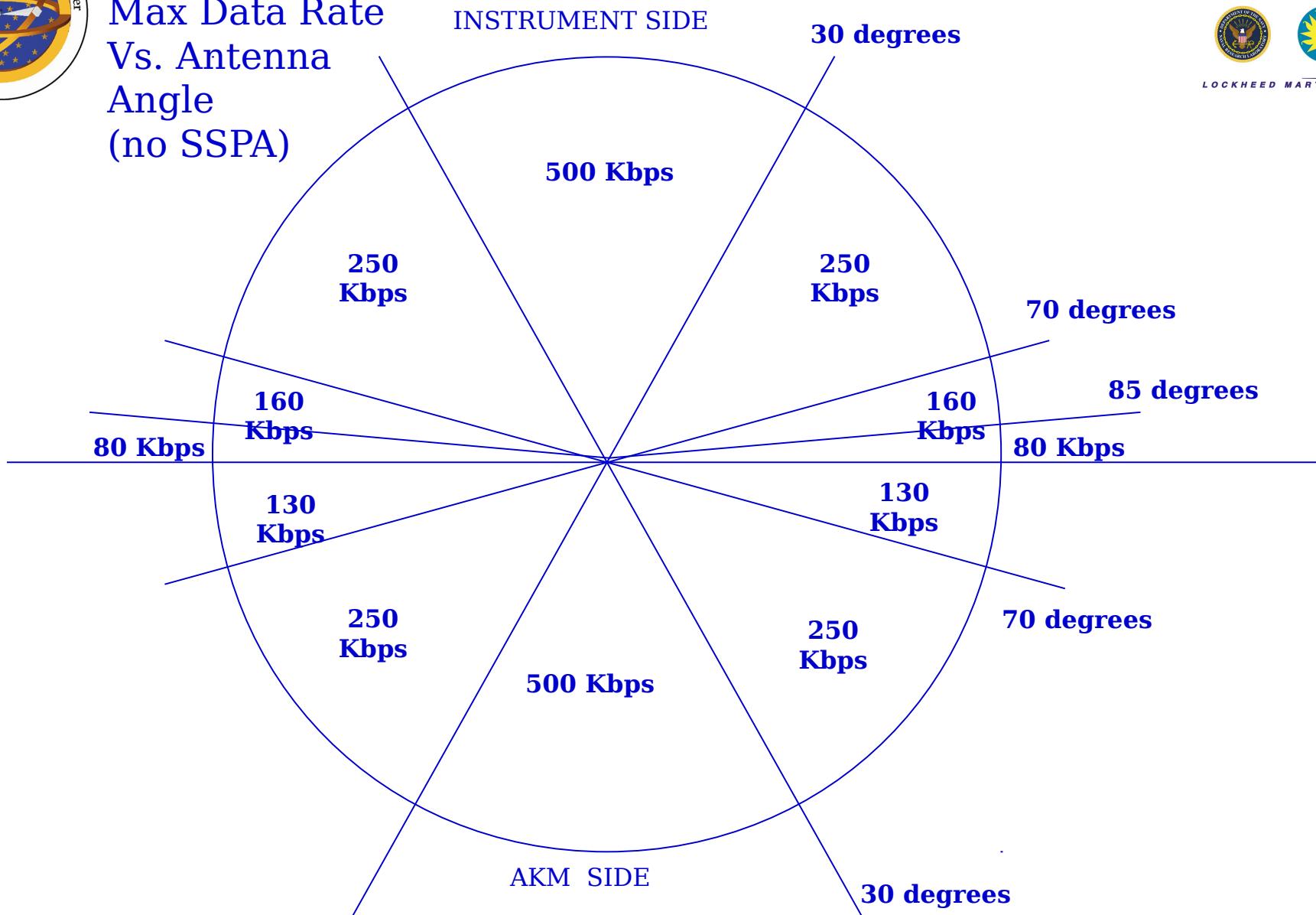
Savings

Max Data Rate

		GTO	Mission	Safe				
20W SSPA		44	114	44	34.3	Baseline	1 MBPS w/ current ground station	
6W (No SSPA)		46	46	46	29.9	350 K *	250 KBPS w/ current ground station or 500 KBPS w/ G/T =26	
* Does not count any additional cost to upgrade ground equipment for G/T =26								
* Does not include SSPA engineering support through integration & launch or other associated SSPA costs. Total savings approx. 480K								

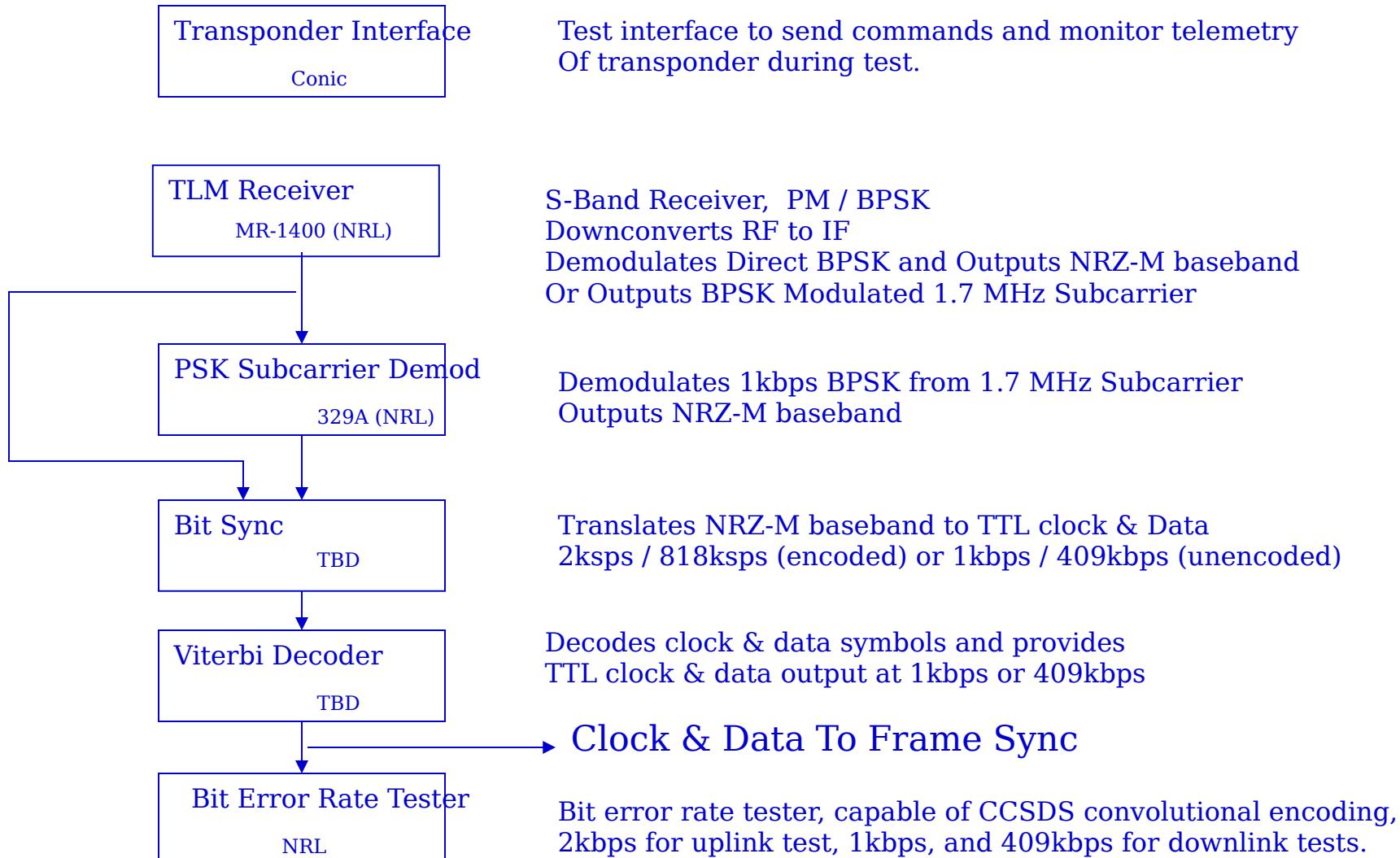


Max Data Rate Vs. Antenna Angle (no SSPA)





RF Test Rack





Status

- Transponder

Specification Released To Vendors. Needs To Be Updated.

- Antennas

Fabricated Engineering Model “Ball” Antenna & Performed Initial Tests

- Diplexers

Re-tuned ICM Diplexer EM Model To FAME Frequencies

- SSPA (If Required)

Working Breadboard (20W) Tested Over Temperature

Brassboard Integration In Progress

- Other

Received NTIA Stage 2 Approval